

RTTY

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EXPEDITION TO COCOS ISLAND. PICTURED IN FOREGROUND IS SIGURD KOBERG
TI2SK AND JAVIER PRADA, TI2FPE IN BACKGROUND. SEE PAGE 5 FOR STORY

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MISSSES

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S.T.A.R.

While in Scottsdale at the ARRL Convention, I attended the ARRL forum. I suggested that the ARRL create a program to be called, SUPPORT TO AMATEUR RADIO. This program would take on many facets. The League would give a S.T.A.R. award to Amateur Radio clubs, Amateurs and Amateur Radio manufacturers for their creative support of Amateur Radio.

I hoped this award would be a vehicle to enhance the position of Amateur Radio with the world's youth. The current love affair between young people and the computer is well documented. The need to explore avenues in a combined effort between ARRL, its members, clubs and manufacturers is painfully apparent.

The Apple computer company quickly grasped the idea that the education centers of this country were ideal springboards to advertise and sell their computers. While simple, their idea was no less spectacular. Apple donated computers to schools. The school children, after using the computers, in turn, aroused their parents' interest and because of this interest many new computers were sold.

This creative thinking is just one idea that Amateur Radio should use. The Grenada incident, the 1982 hurricane in Hawaii and the Coalinga earthquake are just a few of the public service examples we must publicize nationally. The need for public information officers to constantly release items to the news media can not be stressed enough. These releases should also be given out to high schools. Assemblies concerning Amateur Radio with a computer tie-in would be great. I tried to just list a few of my ideas but let's look at some others.

A day long session was moderated by Schroeder, W9JUV, before the ARRL/Miami Hamboree. This meeting was attended by over forty representatives of the Amateur Radio Industry. This included manufacturers, dealers and publishers. The subject of this "think tank" was on how to bring about the KIND of growth we need in Amateur Radio. The ARRL was also represented by executive vice president David Sumner, K1ZZ and development manager Bill Lazzard, N2CT.

The following ideas were generally supported by the group:

Novices need to have more interesting privileges than just HF CW, [KITTY, packet radio and UHF phone (220 MHz, perhaps)] were specifically mentioned.

Present CB operators are seen as a likely source of new recruits. ARRL was encouraged to build bridges to responsible CB groups, such as REACT.

The concept of a comic book aimed at junior high school students was endorsed.

A mailing to recent license expirers followed by regular mailings to Amateurs just before their licenses expire was seen as a good idea. The mailing would include a new 610 form with simple instructions on how to fill it out as a license renewal.

An industry sponsored booth for display at the major Conventions and Hamfests will be investigated as a possible focal point for the "hosting" of non-Ham attendees.

Dealers will be encouraged to provide whatever support they can to local classes, exam sessions and local efforts at personal contacts with prospective Hams.

A pamphlet for general industry use as a "stuffer" in their mailings to presently licensed Amateurs will be explored - something with the theme "Help Amateur Radio Grow - put back in what you've gotten out of it."

A short "layman's guide to packet radio" may be needed to explain the medium to computer-oriented prospective Hams.

Computer magazines should be a good way to get the word about Amateur Radio out to computer people.

I believe you will agree that this is a creative and positive start. A progress report will be issued at a meeting just before the Dayton Hamvention.

I have tried to give a few of my ideas and expose you to what others are thinking. Please put your ideas on paper and drop me a line. We must all pool our ideas and not leave everything to the ARRL.

So long for now..... George, WA6CQW....

Alexander Volta RTTY DX Contest - May 11 and 12, 1985

1200Z May 11 until 1200Z May 12. 80-10 meters. Entry classes: single op; Multi-op; single transmitter; SWL. Work stations one per band only. Exchange: RST report serial number and zone number. QSO's within the same country do not count. Points for other QSO's are determined from table (in last month's issue). QSOs on 3.5 and 28 MHz are doubled. Multiply QSO points by sum of DXCC countries and W/VE/VK call areas worked per band. One additional multiplier goes for working the same station on four or more bands. Logs must be by 16 July get to: F. DiMichele, POB 55, Cantu, Italy.

TI9TTY, FIRST RTTY/AMTOR DXPEDITION TO COCOS ISLAND
BY James A. Sladek, WB4UBD

Cocos Island, a solitary island in untraveled seas, is located 320 miles off the Pacific coast of Costa Rica. Of the principal Eastern Tropical Pacific islands, (Cocos, Clipperton, Malpelo and Galapagos), it is the only one that supports a tropical rain forest by receiving about 180 inches of rain per year. The isolated conditions of Cocos Island provide for a unique natural laboratory for scientific studies in areas such as evolutionary biology. Because of its uniqueness and value to science, Costa Rica, exercising complete sovereignty over the island, has declared it a protected National Park.

Cocos Island is also known for the legends of extraordinary treasure hidden by buccaneers who sailed the seas of the new world. Modern historians have surmised that Cocos was visited as early as 1684 by a privateer named Edward Davis who hid booty captured in raids on Spanish ships along the Pacific coast. About 130 years later Benito Bonito, another pirate, arrived with an estimated eleven million dollars of booty taken from Spanish troops in Mexico. Stories also hold that the MARY DEAR, commanded by Captain Thompson, was chartered to deliver to Panama, the treasures of Spanish Colonists in Peru who were threatened by revolutionaries. This trip, by way of Cocos, deposited over three hundred million dollars in treasure on the island. All these riches hidden in the tropical jungles of Cocos Island have so far eluded 160 years of organized expeditions in search of them.

The island's twenty square miles is mostly rough mountainous terrain covered by nearly impenetrable jungle growth with the highest point (nearly 2,000 feet above sea level) located on the western side of Cocos Island. The island is usually covered by a thick layer of fog and the story is told that because of this, during the Second World War, a U.S. Navy submarine search plane crashed into this unexpected mountain in the middle of the Pacific Ocean. With steep cliffs, some as high as 600 feet, access to the island is difficult and limited to the northern end where Chatham Bay and Wafer Bay are located.

Chatham Bay is a protected bay on the northeast coast. It is the preferred location for anchoring, but has mountains and towering trees right off the beach and no more than 500 square feet of flat area. Wafer Bay is located about 6,000 feet west of Chatham Bay and offers no protection from high winds and seas, making it a less favorable anchorage. With several acres of flat land available, this site is

where the National Park garrison for the island's only human inhabitants is found. This is also where most DXpeditions operate and an earlier group had erected a permanent eighty foot tower for this purpose.

During a visit to Norfolk in the summer of 1984, Sigurd Koberg (TI2SK) mentioned the possibility of taking a vacation trip to Cocos Island later that year. During the course of conversation that followed, the idea of the "first RTTY DXpedition to Cocos Island" was born. Later that year, after considering the island's rainy season and availability of transportation, one of the more difficult problems, the DXpedition was officially scheduled for February 1985 combining the trip with members of Costa Rica's Amateur Fishing Club. In September with the agreement of Javier Prada (TI2FPE) to accompany Sigurd on the operation, the team was formed and final details worked out. Special authorization had to be obtained to operate using a single callsign for a team, since licenses issued in Costa Rica are normally issued to the individual and not to the station, a licensing procedure opposite to that used in the United States. In late November the callsign TI9TTY was assigned to the team of TI2SK and TI2FPE for the February operation.

Departure from Puntarenas on the Pacific coast of Costa Rica was scheduled for the night of February 8th at high tide, but necessary repairs to the boat's diesel generator delayed departure until the morning of the 10th. The thirty hour voyage was made in the SCORPION, a 58 foot Bertram sports cruiser out of the Cayman Islands, with the BARRACUDA and GEORGIANA in company. The weather was excellent with fair winds and smooth seas for the entire trip. Maritime mobile operations were attempted, but not continued due to interference with the satellite navigation equipment. Upon arrival at the island, the team found that an unexpected Amateur Radio operation had been established at the Wafer Bay site two days earlier. The decision was made to set up the station at the less desirable Chatham Bay site to avoid interference in this normally interference free environment.

In setting up camp at Chatham Bay, the grounds had to first be cleared. After ridding the area of trash and an amazing number of voracious red ants (warnings had been heeded and the team was properly equipped to combat them), two tents were assembled under the trees with a magnificent view overlooking the bay. One tent sheltered the equipment and operators while the second was used for relaxation. Primary power was provided by two Yamaha one-kilowatt generators located some 50 feet distant and run

alternately. A bank of three 180 AH batteries for power backup was placed next to the equipment tent. The entire area was lit with anti-mosquito light bulbs that proved to be quite successful in their task.

The most difficult and time consuming job was the setting up of the antenna system. Optimum antenna locations could not be obtained due to the protected status of Cocos Island which prevented clearing of trees. A Hy Gain TH3MK3 beam was erected in the only relatively clear area among the trees that would allow free rotation. Installation on a 30 foot mast was attempted but so much difficulty was encountered that it was left at 20 feet. A Hustler 6BTV trap vertical was installed standing on the base of a tree and rising above the tree-top with radials run through the branches of adjacent trees. A 40/80 meter dipole was suspended between two of the tallest trees in the immediate area.

Outside of common power sources and antennas, there were two separate radio stations set up. Sigurd's station consisted of a Kenwood TS-430S and a Commodore C64 microcomputer with the AEA CP-1/MBA-TUR terminal unit and software. Javier's station consisted of an Icom IC-751 transceiver with a Microlog ATR-6800 RTTY/AMTOR terminal. A HAL Tele-reader 6850 was available as a backup terminal for either station.

After the nearly two days that it took to set up the station, TI9TTY was officially on the air at 2200Z on 12 February, 1985. The station was operated around the clock for the next two and a half days. Although the team was fortunate that there was only one day of rain in this tropical rain forest, extremely poor propagation conditions coupled with the physical location allowing a mountain-free opening only to the north and northeast resulted in many long periods of time during which there were no responses to CQs. AMTOR calls were attempted at various times but were met with little success. The operation netted 109 contacts distributed as follows:

AREA	RTTY	AMTOR
United States and Canada	76	1
Southwestern Europe	21	0
CaCaribbean and Central/South America	6	4
Australia	1	0

Ninety contacts were made on twenty meters with the remainder made on forty and eighty. Due to propagation conditions, ten and fifteen meter contacts were not attempted.

Because of the scheduled boat departure, TI9TTY

ceased operation at 2100Z on February 15th. There was a bit of regret in breaking camp and later watching the outline of this "Treasure Island of the Pacific" fade in SCORPION's wake, but thoughts were on the unforgettable adventure of making TI9TTY, the first RTTY/AMTOR DXpedition to Cocos Island, a reality.

EPILOGUE: I talked to Sigurd just after he returned to the mainland, to see what he thought of DXpeditions since he is not a DXer (or perhaps I should say that he was not a DXer before this trip). He said he was disappointed that they were unable to get the number of contacts that he had anticipated, but he's ready to do it again - only this next time, for a couple of weeks. I guess that says it all.

I'd like to extend my personal thanks to Sigurd who was very generous to organize the DXpedition and spend his first vacation trip to Cocos Island behind the keyboard, to Javier for assisting Sigurd on the operation and to the many who sent their kind comments, and "a little extra to help" with their QSLs.



TI9TTY at Chatham Bay site. Sigurd to the right and Javier to the left.



Cocos Island of departure - in "SCORPION'S wake."

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Printer Interface: Centronics Para Compatible interface enables easy connection of a low-cost dot printer for hard copy.

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Pre-load Function: The buffer memory can store the messages written from the keyboard instead of sending them immediately. The stored messages can be sent with a keyboard command.

"RUB-OUT" Function: You can correct mistakes while writing messages in the buffer memory. Misspellings can also be erased while the information is still in the buffer memory.

Automatic CR/LF: While transmitting, CR/LF automatically sent every 64, 72 or 80 characters.

WORD MODE operation: Characters can be transmitted by word groupings, not every character, from the buffer memory with keyboard instruction.

LINE MODE operation: Characters can be transmitted by line groupings from the buffer memory.

WORD-WRAP-AROUND operation: In receive mode, WORD-WRAP-AROUND prevents the last word of the line from splitting in two and makes the screen easily read.

"ECHO" Function: With a keyboard instruction, received data can be read and sent out at the same time. This function enables a cassette tape recorder to be used as a back-up memory, and a system can be created just like telex which uses paper tape.

Cursor Control Function: Full cursor control (up/down, left/right) is available from the keyboard. Test Message Function: "RY" and "QBF" test messages can be repeated with this function.

MARK-AND-BREAK (SPACE-AND-BREAK) System: Either mark or space tone can be used to copy RTTY.

Variable CW weights: For CW transmission, weights (ratio of dot to dash) can be changed within the limits of 1:3-1:7.

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DX

JOE WOOD, AJ0X

POB 84

LAUREL, MS 39440

Hello fellow dx'ers. Spring is well upon us and we are now looking forward toward the summer months. Propagation has not been too bad for a near the bottom-of-the-cycle year. Some openings on ten have provided a few with exciting moments, with more to come! The lower bands, 80 and 40, have provided their share of DX for those times when conditions on the higher bands have failed us and for those with better than average antennas (for the lower frequencies) more consistency into many parts of the world.

ANTENNAS

I have, in the past, spoken of antennas as being the key to a good station and subsequently, good DX contacts. A recent storm which took its toll at this author's location has brought these words home "to roost" by showing me just how much a daily used system can be missed. Approximately three weeks ago, a frontal system passed through this area. It harbored winds in excess of seventy miles per hour which proceeded to raise havoc with the reflector and driven elements of my treasured twenty meter yagi, forcibly removing the ends which were damaged when they fell to the concrete drive some eighty feet below the antenna. The tri-bander, at a lower level, had its elements skewed to the point of resembling a satellite circularly polarized array. With the damage to other antenna installations in the area, three towers and yagis completely destroyed, the writer feels extremely lucky, and, hopefully, by the time you read this, all the repairs to the system here will have been completed. Someone once said, "If it doesn't fall down, it was not big enough to start with". It all boils down to the fact that no matter how good it is, mother nature will find a way. Thanks to all sending sympathy cards!

OSCAR TEN DX

One of our frequent reporters, Bert, N1BNK, seems to have the antenna problem in hand with the use of smaller antennas, namely radiators for two meters and seventy centimeters. Bert writes that DX is a-

tive and well on AMSAT Oscar-10 and wants to share this with RTTYers who might be interested in what is going on with Oscar-10. He has worked a number of RTTY stations via Oscar over the past months, with one contact including a three-way between New Hampshire, Florida and XE1XA in Mexico City. The down link frequency where most RTTY stations hand out is in the range of 145.880 to 145.895, although not restricted to that area. The uplink frequencies corresponding to these frequencies are 435.125 to 435.110 MHz.

Bert goes on to say that signal strength in New Hampshire is usually not more than S3 although readability runs from R3 to R5. The only QRM you will get will be noise as he seldom hears more than two or three RTTY stations on at the same time. Oscar 10 is usually available for at least four or five hours a day, and sometimes longer depending on the ground-track. The best times are during the approach and return from apogee when very few antenna pointing changes are required. The satellite reaches an apogee of about 38,000 Km during this part of the orbit so your signal has to travel about 76,000 Km, out and back. Bert uses a Yaesu 726R and states that it is possible to work full duplex when answering a CQ as you can drop your signal directly on the other station while he is finishing his call. The only confusing thing is the fact that as your receive frequency goes up, the transmit frequency goes down, and Bert keeps a chart handy to make sure of where he sets his transmit frequency (in relation to the receive frequency). Brief bulletins are broadcast by Oscar-10 fifteen and forty-five minutes past the hour on 145.810 MHz plus or minus a KHz or so due to Doppler. The baud rate is 50. Bert goes on to say that it is a lot of fun and a chance to work DX when all else fails. The ARRL Satellite Handbook is an excellent source for in-depth details.

Thanks Bert, for sharing this with us. If there are others out there that have been working Oscar-10, please write and let us share your experiences. It sure sounds like a lot of fun to me and well worth the effort to try. RYRYRYRYRYRY CQ DX OSCAR!

Above 14100

Comments continue to arrive with regard to this subject and are added to the growing file. Expansion by far, is the favored trend however, all viewpoints are being weighed and there is room for more. If you have not sent me your feelings on this most important issue, by all means take a few minutes to jot them down and pass them on. This mode is in the throes of explosion and we need room to grow in. Be heard! To page 12 please....

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MSO'S

by Dick Uhrmacher, K0VKH

Hi gang! It looks like 'Spring has sprung!', after a long, cold winter up here in the Dakotas, and we are certainly glad to see the warmer weather. This issue of the 'MSO COLUMN' is being written before our annual trek to the Dayton Hamvention, and hopefully in the next issue we'll be able to tell you about this years adventure, and if we're lucky, may be even some pix of the RTTY gang that gathers there every year.

And, speaking of this time of the year, I sure wish someone would pay the 'light bill' for twenty meters, so they would turn it back on! After over six years of participation on the "National Auto-start Frequency", I can't remember band conditions being as bad as we are now experiencing. If my calculations are correct, we're not at the bottom of the barrel yet, and can expect another couple of years of very poor conditions before we start to climb out of this sun-spot cycle.

Considering these poor band conditions, there are a few things that the remote user can do to improve the utilization of MSO's. First, and probably foremost, we all should insure that our equipment, (both rigs and antennas), are in good operating condition, and designed to do the job. The old adage, "If you can't hear them, you can't work them", applies equally well to MSO's as it does to any other form of communications. If your signals are weak, off frequency, distorted, etc., the MSO will either politely ignore your commands, or respond with something other than what you requested. Of course, if your receiving equipment isn't up to par, you'll be asking for repeats from the MSO's, which just adds to on-the-air time for both systems.

When 'Write'ing a file to the MSO under these adverse conditions, adding a second '.Write (FN)' command, (properly formatted and left-justified), will also help insure that your message will be accepted by the MSO, and written to memory. If a 'hit' is taken during the first '.Write' command, the second one will do the job. (Including the second '.Write' command does not interfere with the command structure).

Utilizing short 'filenames' also helps in normal day-to-day MSO operations, and especially during adverse band conditions. Since the filename must be reproduced exactly as it is listed in the MSO 'Directory' during '.Read' and '.Delete' functions, the shorter the filename, the less chance of taking a 'hit' when the remote station is commanding the MSO.

Finally, all of the 'HAL' MSO's that presently utilize the Disk Storage System, will accept abbreviations to the various commands. The shorter the command, (and filename), the less chance of taking a 'hit'. For example, the '.Write' command can be abbreviated: '.W (FN)'; the '.Delete' command, '.Del (FN)'; the 'Exit' command, '.Ex', etc. Anything to improve the rapid fire acceptance of your remote commands to the MSO's will help.

MSO HINTS OF THE MONTH: The dramatic increase of newcomers to digital communications is certainly evident by observing the new users to the various MSO's. If the SYSOP's (system operators) weren't more than happy to have new users on their systems, they would, of course, find some other use for their equipment. In addition to the standard '.Help' feature that each MSO contains, many SYSOP's have either developed MSO "Helper" files of their own, or have adopted files from other SYSOP's that reflect their interest in providing assistance to newcomers. Newcomers should look for these files in the various MSO's, as they will make utilizing these amazing machines a snap for them, as well as eliminating on-the-air "trial and error" sessions. Some filenames to look for are: "MSO Golden Rules"; "MSO Helper 1"; "MSO Helper 2"; "MSO Newcomer", etc.

Secondly, (and a source of irritation to some MSO users and SYSOP's), are repeated requests for the 'Help' menu, (a list of commands stored in the MSO), by the same station. The 'Help' command is there for that very reason, to help the newcomer become acquainted with the MSO command structure. However, it would be very much appreciated if the newcomer would either "take notes" while the 'Help' menu is being transmitted, or turn on the station printer to hard-copy the command list. A little fore thought and consideration in this area will free up the MSO for other uses, save on-the-air time, and, of course, save wear and tear on the MSO equipment.

Many of the new "personal computer" RTTY systems 'wake up' in a thirty-two (32) character line length mode. Although this line length works nicely when working purely 'video RTTY', it presents a distinct problem when hard-copy becomes involved. The thirty-two character lines eat up paper in line printers and dot matrix printers in a hurry! Many stations

MSO COLUMN CONTINUED

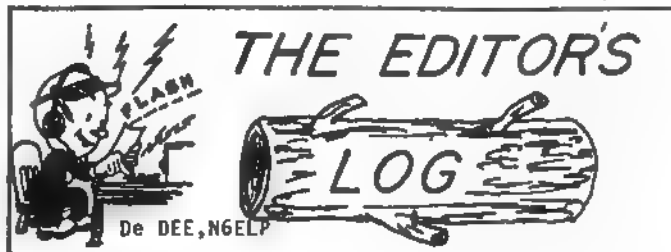
routinely monitor frequencies, or copy files from MSO's with their printers active, and the short line lengths gobble up their paper resources in a hurry. How to win friends and influence people...? Set your 'line length' between 69 and 72 characters on your computer 'menu' when you first boot your RTTY operating program. It will be appreciated by all!

MSO RAMBLINGS: Rumor has it that Larry, KA0JRK, will begin parking his 'HAL' MSO on the "National Autostart Frequency". There's always room for another fine MSO system, and one strategically placed in Council Bluffs, Iowa, should be very useful and popular. Welcome aboard Larry! --"Red", K9KUW, one of the founders of the "National Autostart Frequency", will soon be selling his life-long home in Kenny, Illinois, and moving to the sun belt, (Mesa, AZ). We wish him and Charline all of the luck in the world in their new adventure, and we'll be looking forward to his MSO being active from Arizona once he gets settled in. --"Gaylord", WB8ICL, has discontinued his MSO operations on 20 meters, and is now leaving his computer system active on two-meters in the Yellow Springs, Ohio area. We'll miss Gaylord's nice signal, and hope that he'll re-join us at some later date. --Dick, WD4MTC, informs us that he will be turning off his MSO after April 1st, until the Summer 'lightning' season is over. Dick's magnetic personality, good looks, and inviting tropical location all act like 'lightning rods', and after three disastrous lightning hits in the recent past, we don't blame him for digging a hole and pulling the dirt in after him! We'll miss Dick's fine MSO service!

COMPLAINT DEPARTMENT: Although I have recently covered the following subject in a recent "MSO Column", the numerous and vociferous complaints I have recently received dictates that I should mention it again. It deals with CBMS's (computer based mailbox systems), which have the capability to automatically call "CQ" at preset time intervals. It appears that some CBMS SYSDP's enable this automatic "CQ" feature, and then walk away while the system merrily cranks out line after line of "CQ", with the idea of calling attention to the mailbox system, oblivious to already established communications on, or near their operating frequency. Interference to established communications is a certain result of this type activity, and it should be stopped! SYSDPs who have this software capability should review the consequences of their automated operations, including the ramifications of 'beacon' activities as described in Part 97 of the FCC Rules and Regs. If you're concerned with attracting attention to the presence of your CBMS on a particular frequency, you

can be S-U-R-E to get attention (and most likely the wrath of Kahn!!!) when your automated system calls "CQ" in the middle of someone's QSO!! Crowded band conditions and poor propagation are sufficient problems for RTTY enthusiasts to contend with. Let's not add to the problem with thoughtless CBMS activity!

Take care gang, enjoy RTTY, and let me hear from you on subjects relative to MSO's. 73..DE:DICK,KØYKH



I received a very nice letter from CDR. William Radican, M7CAD/KA2WR, that I would like to share with all of you. Cdr. Radican lives aboard a 37 foot sailboat berthed at the Yokosuka Naval Base in Japan. He has a Trio TS-120, an AT-120 tuner an Icom 745, a Daiwa CN540 tuner, a Hal Telereader 6700EJ, a Yaesu FRG-770 HF receiver, a C-64, Microlog AIR-1 TU, an AEA CP-1 TU and an Icom O2AT H/T. Antenna is an insulated backstay with inverted-V hoisted from the starboard Spreader. Cdr. Radican is stationed on the aircraft carrier Midway so spends a lot of time at sea.

Cdr Radican says that, while the Air-1 is a fine piece of equipment it has drawbacks, mainly noise! On the HF frequencies his C-64 generates little if any noise until he plugs in the Air-1 cartridge. The S-needle, "jumps from one to two units". Also, Microlog has not responded to Cdr. Radicans pleas for help. Anyone out there with suggestions for our overseas friend?

Cdr. Radican, also wished to compliment AEA. "They were responsive to my technical questions and they only took two weeks from my door to return with an answer". Microlog has still not replied yet to my letter dated mid-January". "I could not recommend the Air-1 to a prospective buyer but would strongly recommend the AEA CP-1/64". I guess that customer service is still a highly sought after commodity after all. Anyone with suggestions for Cdr. Radican, can write to him c/o: Air Department V-5 Division, U.S.S. Midway (CV-41), FPO San Francisco, CA 96631-2710.

Cdr. Radican has pin-pointed an area that I would like to address. Products. Have you ever wondered why the RTTY JOURNAL doesn't have gobs of ads all over? Few products are worthy of the RTTY JOURNAL!!!

DX OPERATING HINTS

When calling a DX station, 1) try and center the DX stations frequency (best way - a scope); 2) turn off your RIT before you establish contact, this keeps the QSO on one frequency and provides good spectrum management (easier said than done); 3) make short calls then listen. The DX station may be listening the callers for subsequent contact. If there is a pile-up building (listening is not one of the casual DXers' virtues); 4) once contact is established, don't tie up the DX station with your life's history unless he invites it (use good judgement here); 5) give the DX station an honest report; 6) do not try and tell the DX operator how to operate, i.e. "work by call areas, work split, make a list, etc." It is his show, let him handle it in the way most comfortable for him, not you; 7) do not break-in asking for QSL information, he will more than likely give it during one of his contacts. Listen... just L I S T E N !!!!!

I am sure that you can add to this list, and by all means do so. DXing can be (and is) fun, but it can be frustrating, so try to not add to a growing problem. Use good sense in operating and add to the enjoyment of the chase.

G.A.R.T.G. RTTY JOURNAL

A month or so ago, I was privileged to receive copies of that publication, courtesy of Wolf, DL8VX. The publication is in the German language and it took some searching to find a translator, but find one I did, and enjoyed the articles contained therein to the utmost. I have subsequently received a very nice letter from Wolf explaining his work with the publication and it sounded very exciting. Wolf shares a lot of the frustrations that we have here in this country with the lack of input on various popular modes such as SSTV. He makes mention of a RTTY-bulletin that is aired on Sundays at 0900 UTC on 3587 KHz, 45 baud for half an hour. Just prior to that, at 0800 UTC, the same bulletin on 7035 KHz and 14085 KHz, both at 75 baud. Wonder how many in this country have printed these? I'm sure our German friends would be interested in knowing if we are copying the transmissions here. The rules for both the GARTG RTTY and SSTV Contests for 1985 were published in the March 1985 issue of the RTTY JOURNAL for all the contesters types to review. I will try and get the RTTY JOURNAL/73 1986 RTTY Contest rules to you for publication next year, Wolf [Ed. note: they are sent to them every year]. Thank you so much for your publications and the very informative letter, our best regards go out to you and your fine group of RTTY enthusiasts. Keep up the good work.

Congratulations to EA2RE on joining the growing rank of RTTY operators that have qualified for ARRL's DX century club. We wish you continued success in the pursuit of new DX countries.

HEARD, WORKED and QSL INFORMATION

CALL	FREQ.	TIME	QSL ROUTE
UZ9CWC	14.087	0007	Buro
5V8WS	14.098	2034	Via DJ6QT
KL7KC	14.083	2250	CBA (Callbook address)
JA1AYC	14.095	0004	JARL
JA5TX	14.097	0031	JARL
SV5TS	14.097	1748	Box 251, Rhodes, Greece 85100
LX1WH	14.088	1343	Buro
UT5RP	14.095	1748	See past JOURNAL listings
UZ2FWA	14.083	1410	Buro
CT1CSM	14.093	1509	Buro/CBA
9H1EY/A	14.095	1540	Buro/CBA
CT1ANO	14.096	1555	Buro/CBA
9H1C	14.094	1659	Buro/CBA
KC2OU/V2A	14.096	1712	Via OE3NH
V2AW	14.088	2230	Box 229, Antigua, West Indies
HL9AV	14.095	0150	EUSA-G3-FD, APO SF, CA 96301
SP1LOP	14.093	1300	Buro
UA3HR	14.082	1416	Buro
SP1KKO	14.093	1300	Buro
LX1PZ	14.096	1609	Buro
GD4MNS	14.098	1650	Buro/CBA
TR8DX	14.092	1705	Via WA4VDE
UB5NBI	14.093	1800	Buro
SV0AC/SV9	14.072	1256	Via WB4GCP (AMTOR/A)
SV1MJ	14.093	1215	Buro/CBA
HL1EJ	14.084	1126	Box 6152, Seoul, 100, Korea
HL1HO	14.096	1221	Buro/CBA

UPCOMING DX

Look for 18AA and 15FLN to air HV2VO from the Vatican the first week in July. This may be your last reminder before that operation commences.

Al, W6MI, wonders if anyone is receiving cards from ZK2WL. ZL3AFH is no longer listed in the callbook and Al wonders if his old address is valid. Any one out there to help Al?

QSL MANAGER JOB WANTED

Ted, N6EQZ/7, is offering his services as QSL manager for a RTTY DX station. Anyone out there needing this service should drop me a note and I will see that it gets to Ted. To page 14 please...

CLASSIFIED ADS

30 words \$3.00, additional words 5 cents each - Cash with copy. Deadline 1st of month for following month.

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HAM RADIO MAGAZINE. The no nonsense state-of-the-art technical magazine. Subscribe now and see for yourself. 1 year \$19.50 in US. Canada and foreign surface \$21.50. Europe, Africa & Japan area \$28 airmail. Ham Publishing Group. Greenville, NH 03048.

NEWS-NEWS-NEWS-Amateur Radio's Newspaper "WORLD RADIO". 1 year subscription is \$9.00. Send to: WORLD RADIO, 2120 28th St., Sacramento, CA 95818.

IRL FSK 1000 RTTY demodulator. Cost new \$449, never used except for testing. Make offer. Bob, KB6PZ. 714/849-1260. Have S/R M28 Teletype to be donated to someone.

THE RTTY JOURNAL in SPANISH..subscribe direct to: LU4EGE, Juan or LU5DLE, POB 64, 1706 Haedo, Buenos Aires, Argentina. Managers are: AB6A Jorge, LU8CA0/W2 Cesar, ZS6-AKO, JA5TX, Mitsuo and HB9AVK, Paul Rates are: US\$ 10.00 in exterior, \$210 semestralmente in Argentina. Give a gift sub to a friend...

WANTED-TELETYPE REPAIR PARTS, unused. Any quantity. Send SASE for list of parts, supplies, manuals. Typetronics, Box 8873, Ft. Lauderdale, FL 33310. Phone 305/583-1340 after 9PM. Fred Schmidt, N4TT.

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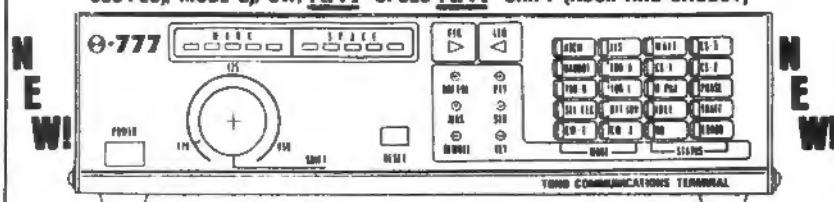
DX COLUMN CONTINUED

Thanks go out to all of you that make this column possible. Your input is appreciated by all that share it here in the RTTY JOURNAL. Our appreciation is extended to: KT1N, W1DA, W6MI, 18AA, DL8VX, N1-BNK, KA0JQR, WB2CJL, W2JGR, N6EQZ and WB2IVO.

The next few weeks will bring many changes to propagation and with it new areas to be heard from. Good luck to each of you in your quest for that elusive DX. 73 and SK de Joe, AJ0X.....

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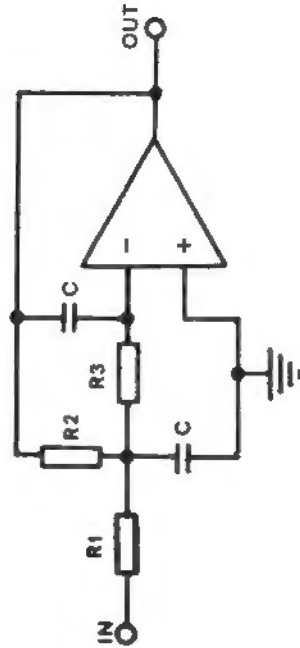
SINGLE OPERATOR								
1. I20LW	1,548,136	12. K6WZ	92,024	24. DK5KJ	6,930	36. SP2UUU	1,144	SWL DE1GMH 41,375
2. IK5CKL	594,028	13. OK3CNJ	81,680	25. W0LHS	6,268	37. VE6ZX	994	SWL FE3700 28,520
3. OZ1CRL	465,080	14. W3KV	77,830	26. IK2AQR	5,300	Multi-ops		
4. K4AGC	445,600	15. W6JQX	70,752	27. OH2BDN	4,768	1. LZ1KDP	2,292,286	
5. SM6ASD	358,716	16. VE3GQV	49,544	28. DF5BX	4,368	2. OK3RJB	214,436	
6. YU7AM	340,600	17. DJ0CP	43,212	29. WA1FCN	4,136	3. VE3UR	137,230	
7. EA5CVR	322,282	18. W2KHQ	42,585	30. VE2JR	4,080	4. OK3KGI	65,268	
8. HB9HK	217,720	19. C6ADZ	31,464	31. OK1AWC	3,467	5. HG5A	41,040	
9. KT1N	149,050	20. SM4CMG	19,890	32. VE7BDQ	2,610	6. OK3KJF	5,876	
10. NE4R	124,920	21. VK2EG	12,507	33. KE6T	2,192			
11. VE7CIM	111,625	22. K4JAF	9,640	34. VE3IR	1,320			
		23. W1ZXA	7,852	35. VE4UA	1,136	SWL. NL4483	109,180	PAGE 14

ACTIVE FILTERS, PART 3.

COURTESY OF B.A.R.T.G.

G4HYD

The Low Pass Filter



The circuit is as shown above. For the chosen cut-off frequency and value of Q , select a convenient capacitor value, and from the graph read off the value of R . (If your chosen frequency and Q values take you outside the graph, do not worry. Dividing the capacitor value by 10 will multiply the frequency by 10, and vice-versa, enabling the graph to be extended in any direction) The values of the resistors are calculated as follows:-

For $Q = 1$

$R1 = R$

$R2 = R$

$R3 = R \times 0.25$

For $Q = 5$

$R1 = R$

$R2 = R$

$R3 = R \times 0.43$

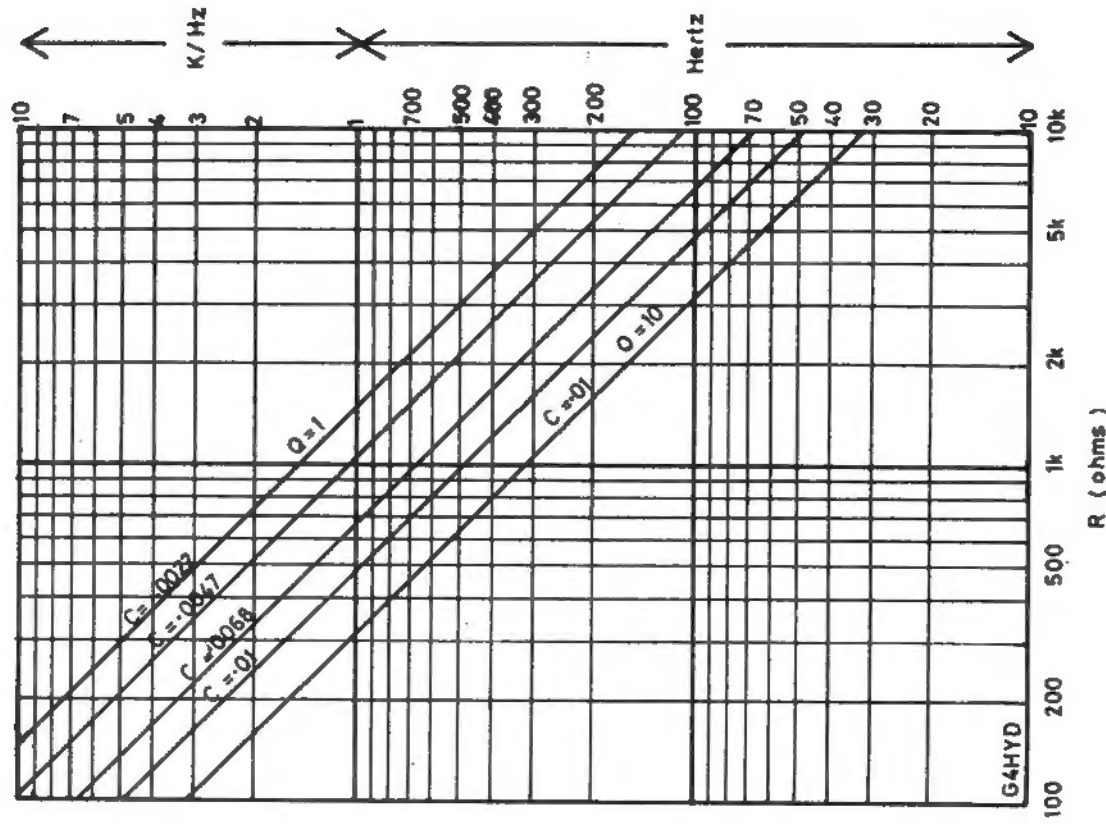
For $Q = 10$

$R1 = R$

$R2 = R$

$R3 = R \times 0.46$

Select the nearest standard 10% resistors to the calculated values. Both capacitors are equal to the value selected.



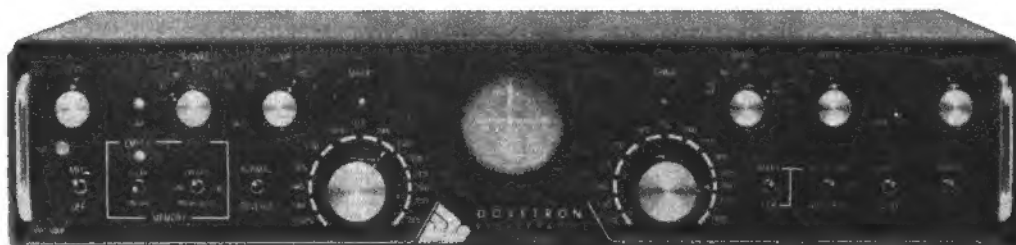
Note:-

There is no significant difference between the graphs for $Q=1$ and $Q=5$. For $Q=10$, R is approximately one half of the value for $Q=1$.

To avoid confusion, only the full set of values for $Q=1$ are shown, and a single value for $Q=10$.

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